

REMARKS/ARGUMENTS

The claims are 5, 6 and 8-14, which have been rejected on the basis of the prior art. Specifically, claims 10-13 were rejected under 35 U.S.C. §103(a) as being unpatentable over *Noble U.S. Patent No. 1,508,713* in view of *Reinking German Publication No. DE 3120721*. Claims 5 and 8-14 were rejected under 35 U.S.C. §103(a) as being unpatentable over *Lorentzen U.S. Patent No. 5,521,355* in view of *Reinking*. Claim 6 was rejected under 35 U.S.C. §103(a) as being unpatentable over *Lorentzen* in view of *Reinking* and further in view of *Ide et al. Japanese Publication No. JP 57134276*.

This rejection is respectfully traversed and reconsideration is respectfully requested.

With respect to the Examiner's rejection of claims 10-13 based on *Noble*, Applicants once again respectfully submit that the Examiner's position is unfounded. *Noble* describes an arc welding apparatus with a welding torch including a torch body, a drive unit, a hose pack connected to the torch body which

connection is constructed by a ball and socket joint 22 to enable the electrode delivery device to turn about the support 11 without producing a torsion in or twisting of the electrode guide tube 7. The electrode is continuously fed to the arc at a proper rate to maintain the arc length substantially constant. See page 1, lines 24-31 of *Noble*. There is no disclosure or suggestion in *Noble* of operating the electrode delivery device 4 (within the torch body) and the electrode delivery device containing the feed rolls 8' with different speeds and/or different directions making it necessary to store corresponding amounts of welding wire between the two electrode delivery devices. Therefore, it is respectfully submitted that *Noble* fails to disclose or suggest a welding torch having a wire buffer storage arranged immediately after the connection region within the torch body.

Moreover, the course of the welding wire or electrode, respectively, within the torch body of *Noble* between the electrode delivery device 4 (rolls 17) and the connection with the flexible guide tube 7 is essentially straight and not curved as recited in Applicants' claim 13. Independent from the position of the ball and socket joint 22, the welding wire of

Noble is essentially straight between the connection joint and the rolls 17 of the electrode delivery device 4. Changing the position of the ball and socket joint 22 changes only the curved course of the flexible guide tube 7. Moreover, because the ends of the flexible guide tube 7 of Noble are connected to the ball socket type joint 22 and the member 8, it is not possible to change the amount of welding wire within the flexible guide tube 7. Therefore, this curved course of the flexible guide tube 7 also does not represent a wire buffer storage within the meaning of Applicants' claims, even if that curved course were within the torch body.

Similarly, even if the conveying direction of the electrode delivery device 4 of Noble were to be reversed, no curved course of the welding wire would be caused within the torch body.

In contrast, Applicants' welding torch as recited in claim 13 enables the welding wire to change the radius of the curved course within the torch body when the direction of the rolls 36, 37 are reversed. The resulting forces onto the welding wire during the reversed conveyance direction would act in a

tangential direction of the curved course of the wire buffer storage 43. This force changes the curved course and the radius of the curved course and therefore also the amount of welding wire stored within the wire buffer.

In the construction according to *Noble*, the resulting force onto the welding wire during a reversal of the direction of the electrode delivery device 4 would act essentially in the direction of the welding wire. Such a force within the more or less straight course of the welding wire in *Noble* would never lead to a curved course of the welding wire. If the force exceeds a certain limit, the welding wire would nick or break, and the welding process would have to be stopped.

The defects and deficiencies of the primary reference to *Noble* are nowhere remedied by the secondary reference to *Reinking*, which simply describes a method for the continuous withdrawal of the wire from a coil, whereby a wire buffer is arranged between coils 8, 8' and a welding apparatus 9. There is no disclosure or suggestion of a curved course as recited in

Applicants' claims. Moreover, the wire buffer of *Reinking* is not arranged within the torch body of the welding torch.

With respect to the Examiner's rejection of claims 5-6 and 8-14 based on *Lorentzen* as a primary reference, it is respectfully submitted that the Examiner's position is unfounded for the reasons set forth in Applicants' previous Amendment filed August 21, 2009. Although the Examiner has asserted that *Lorentzen* has the ability to store a certain amount of welding wire within the torch housing, it is respectfully submitted that this assertion is unsupported by *Lorentzen*. Aside from only slight movements of the conduit 104 within the torch cable 42 and within the torch housing 40 being possible in *Lorentzen's* arrangement, FIG. 3 of *Lorentzen* clearly shows that there are numerous elements such as DC motor 30, passage 46 for feeding cover gas, one or more trigger wires 108, and wires 116 beside the end of conduit 104 which would prevent a free movement of the conduit 104 and therefore prevent a change of the current course and the storage of welding wire within the torch housing 40.

Moreover, Lorentzen provides no indication that the welding wire 20 would change its conveyance direction during the welding process and even if the pulling means 24 and 28 were to rotate with different rotation speeds, the welding wire 20 could escape within the whole torch cable 42 as well as within the feeder assembly 12 between the drive rollers of the pulling means 24 and the insert 48 which would lead to a possible buckling of the welding wire and therefore to problems during the welding process.

As discussed previously, there is no disclosure or suggestion in *Reinking* to modify the arrangement of Lorentzen so as to provide a wire buffer storage arranged immediately after the connection region within the torch body formed from a wire core following a curved course between the connection region and the drive unit as recited in Applicants' claim 14.

The remaining reference to *Ide et al.* simply discloses a detector for projecting length of the welding wire, not an indicator as recited in Applicants' claim 6 arranged on the end of the wire coil 32 where a change in the position of the

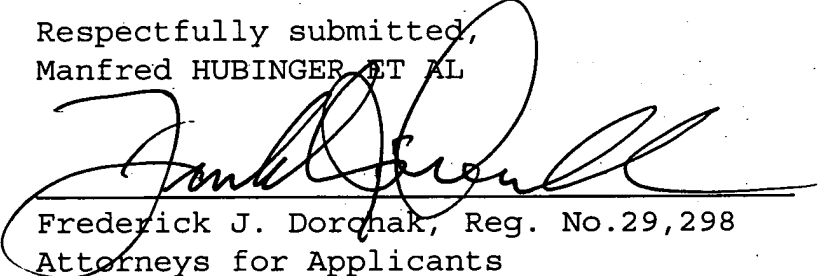
indicator 40 results in a change of the inductivity of the coil 41 into which the wire coil 32 immerses along with the indicator.

Accordingly, it is respectfully submitted that claims 13 and 14, together with claims 9-12 which depend on claim 13 and claims 5, 6 and 8 which depend directly or indirectly on claim 14, are patentable over the cited references.

In view of the foregoing, withdrawal of the final action and allowance of this application are respectfully requested.

Respectfully submitted,  
Manfred HUBINGER ET AL

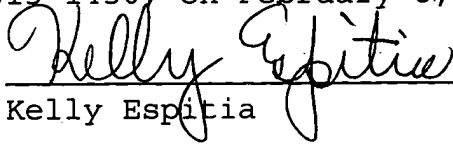
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